

What We Know and Need to Know About Alternate Assessment

DIANE M. BROWDER

FRED SPOONER

ROBERT ALGOZZINE

LYNN AHLGRIM-DELZELL

CLAUDIA FLOWERS

MEAGAN KARVONEN

The University of North Carolina at Charlotte

ABSTRACT: *This article reviews promises, practices, and provisos of alternate assessment as a basis for illustrating what we know and what we need to know about measuring progress of students with disabilities in statewide assessment programs. In 19 data-based studies, professionals have begun to document the impact that alternate assessment is having on school reform and policy in general and to expectations, access to the general curriculum, and instruction for students with disabilities, especially those with significant cognitive impairments. At this juncture, there are insufficient data to report with confidence that alternate assessment will live up to its promises. Based on the data at hand, we offer recommendations for future research and a clearer focus on what we need to know to improve the outcomes of alternate assessments.*

An important way states have been implementing school reform in recent years is through the use of large-scale state and district assessments for student and school accountability. These assessments are used to determine if students have met state or district standards. The federal legislation No Child Left Behind (NCLB, 2002) placed increased emphasis on educational accountability by requiring statewide assessment systems covering all public schools and students. These systems must be based on challenging standards in reading/language arts, mathematics, and science (science by 2007), annual testing for all students in Grades 3-8, and annual statewide progress objectives ensuring that all groups of students reach

proficiency within 12 years. Assessment results and progress objectives must be reported by poverty, race, ethnicity, disability, and limited English proficiency to ensure that no group is left behind. Previous legislation, (i.e., Individuals with Disabilities Education Act, 1997) required that states provide alternate assessments for students with disabilities who are not able to participate in large-scale state and district assessments. To obtain data needed for No Child Left Behind, alternate assessments need to include the domains of language arts/reading, math, and by 2007, science.

When IDEA 1997 required the use of alternate assessments, only one state, Kentucky, had widespread implementation of this process. By July 2000, states had to implement alternate

assessments. Although the Kentucky experience (Kleinert, Kearns, & Kennedy, 1997) and experts (Ysseldyke & Olsen, 1999) offered guidance for creating alternate assessments, this was still a complex challenge for most states. The result was considerable variability in how states interpreted this requirement both in how they assessed (Thompson & Thurlow, 2001) and what they assessed (Browder, Ahlgrim-Dezell, et al., in press). Since 1997, the literature on alternate assessment has grown offering both expert opinions and some data-based studies on this process. This article provides a review of this literature to identify what we know and need to know about alternate assessment. Although alternate assessment is not limited to students with significant cognitive disabilities, this review gives special emphasis to the implications for this population given the likelihood that these students will most likely be the very small percentage for whom states and districts will use alternate achievement standards as allowed by No Child Left Behind.

To identify appropriate literature, we searched electronic resources available through the university library search system called NC Live (North Carolina Libraries for Virtual Education). This system offers a variety of search engines for fields such as business, children, education, psychology, social science, legal, literary, medical, and health. For our search, we used InfoTrac via Gale, Masterfile Premier via EBSCOhost, ERIC via EBSCOhost, PSYCINFO via Silver Platter, and Academic Search Elite via EBSCOhost. We also contacted professionals conducting research in alternate assessment and asked for early summaries of their data-based research. Our criteria for inclusion were that an article had to have at least one measure directly related to alternate assessment, that it used a quantitative or qualitative research design or provided program evaluation data, and that it was published or in press for a peer-reviewed journal, or that it was part of the knowledge base developed by the National Center on Educational Outcomes prior to December 2002. The application of these criteria yielded 19 data-based studies on alternate assessment, which are summarized in Table 1; in addition, we reviewed numerous articles, books, and technical reports that presented additional perspectives on

alternate assessment (see Table 1). An overview of our organizing themes is presented in Figure 1.

In the mid-1990s, personnel at the National Center on Educational Outcomes drew attention to the fact that large numbers of students with disabilities were excluded from state assessment and accountability systems (see Erickson, Thurlow, & Thor, 1995; Erickson, Thurlow, Thor, & Seyfarth, 1996). The concern was that if students were left out of accountability systems, they would be left out of policy decisions. Early writers on alternate assessment posited that it would include students with disabilities in state and local reform programs, improve opinions about people with disabilities in general, improve access to the general education curriculum for students with disabilities, and improve instruction in special education programs. The extent to which these promises have been supported with research is addressed in this article; however, we first share the knowledge base from which the promises emerge, the guidelines that professionals have proposed for alternate assessment practices, and provisos that represent potential pitfalls for full realization of these anticipated changes.

PROMISES OF ALTERNATE ASSESSMENT

The first promise was that alternate assessment would foster greater consideration of students with disabilities in school and state policy decisions. States would at least know if individuals in this population were meeting expectations for learning. Thompson, Quenemoen, Thurlow, & Ysseldyke (2001) noted that to obtain an accurate picture of education and to make accurate comparisons among schools, districts, and states, it is essential to have all students in the assessment picture.

Another promise was that overall expectations for people with disabilities would increase. Kleinert et al. (1997) proposed that "one of the keys to ensuring high expectations for every child is requiring that all students be included in measures of educational accountability" (p. 88). Kentucky was the first state to realize that "all means all" and to identify a way to include students with the most significant disabilities in its accountabil-

TABLE 1*Summary of Data-Based Research Studies on Alternate Assessment (AA)*

<i>Authors</i>	<i>Primary Focus</i>	<i>Type of Design</i>	<i>Major Findings</i>
Browder, Ahlgrim-Delzell, et al. (in press)	How states define alternate assessment	Document analysis/ state guidelines on alternate assessment	States' AA had wide variation in terminology and domains assessed; most combined functional and academic indicators; over half gave examples vs. actual items to be assessed.
Browder, Flowers, et al. (in press)	Alignment of alternate assessment content with academic and functional curricula	Content validity via expert and stakeholder ratings of states' performance indicators for alternate assessment	Experts and stakeholders identified states with performance indicators that were clearly aligned with reading and language arts and others that were not.
Browder, Spooner, et al. (in press)	Content validity of performance indicators	Statistical comparison of expert-identified performance indicators clearly or weakly aligned with content area	States with performance indicators clearly aligned to math and language arts used more academic tasks. One state using a functional approach also had a high ratio of academic indicators.
DeStefano, Shriner, & Lloyd (2001)	Staff training in decisions for participation and accommodations	Pre/post survey; pre/post decision with scenario; analysis of IEPs	After training, there was a stronger relationship among participation/accommodations, curriculum, and instructional needs.
Kampfer, Horvath, Kleinert, & Kearns (2001)	What influences outcome scores on alternate assessment	Survey of teachers in Kentucky	Teachers reported long time to complete AA. Instructional variables vs. time invested related most to student scores.
Kleinert, Garrett, et al. (2002)	Relationship between AA scores and post-school outcomes	Interviews of recent graduates and families using purposive sampling of each level of AA scores	80% of graduates had poor postschool outcomes; students with more successful outcomes were spread across all levels of AA scores.
Kleinert & Kearns (1999)	Expert validation of KY's alternate assessment performance indicators	Survey of 44 experts who publish in significant disabilities	Experts concurred with core of best practices in KY's alternate assessment, but expressed concern about whether AA was sufficiently aligned with general curricular expectations.
Kleinert, Kearns, & Kennedy (1997)	Describe KY's alternate assessment	Program evaluation using scores, reliability analysis, interviews	By 3rd year, 45.6% of scores were proficient or above, and 48.9% scored identically. Moderate correlation in quality of IEP objectives and AA score. High correlation between AA and best practice indicators. Teachers report some student benefits but concern with time.

TABLE 1*(Continued)*

<i>Authors</i>	<i>Primary Focus</i>	<i>Type of Design</i>	<i>Major Findings</i>
Kleinert, Kennedy, & Kearns (1999)	Teacher perceptions of impact of alternate assessment	Survey to teachers using alternate assessment	Over half agreed with including students in school accountability and that it benefits students. Increase in use of augmentative/alternative communication, self-evaluation, and student schedules.
Thompson, Erickson, Thurlow, Ysseldyke, & Callender (1999)	Status of states in development of their alternate assessments	Online survey completed by person coordinating development of alternate assessment	Most states decided to use a subset of standards applied to general education for AA. Thirty-two states had developed eligibility guidelines, but only a few states had specific instruments or proficiency levels by early 1999.
Thompson & Thurlow (1999)	Status of states in including students with disabilities in assessment and accountability in 1999	Seventh in a series of surveys of state directors of special education	In 1999, most states were identifying standards and setting eligibility criteria. Nearly half used the same state standards. Most planned to use observations, portfolios, and performance assessments.
Thompson & Thurlow (2000)	Status of states as alternate assessment requirements took effect	Online survey completed by person coordinating states' alternate assessment activity.	Some states involved general educators as stakeholders to develop AA; others developed only by special educators. In 2000, areas of greatest need for development were scoring procedures and techniques for reporting data.
Thompson & Thurlow (2001)	Progress of states in including students with disabilities in assessment and accountability systems in 2001	Online survey of states	38% of states based AA on state standards; 30% linked functional back to standards; 8% only functional. Decrease in states' use of only functional since 1999; most used portfolios followed by checklist or IEP analysis. 80% measured skill competence; many included system performance also.
Thompson, Thurlow, Esler, & Whetstone (2001)	Do IEP forms include standards and assessments?	Document analysis of IEPs from 41 states	Only 5 states addressed standards on form; 10 did not address alternate assessment.
Thurlow, Lazarus, Thompson, & Robey (2002)	State policies on assessment participation and accommodations in 2001	Examination of publicly available documents	All but 5 states had information on alternate assessment. Nine states reported having more than one alternate assessment option. Information included policy (41 states), content standards (30 states), administration (35 states), and parent information (15 states).
Thurlow, Wiley, & Bielinski (2002)	Information based on states' Biennial Performance Reports to the U.S. Department of Education	Examination of publicly available documents	States varied in whether they reported a single AA score, scores by traditional content area (reading, math), or by other life domains. Performance was generally spread across percentage proficient scale.

TABLE 1*(Continued)*

<i>Authors</i>	<i>Primary Focus</i>	<i>Type of Design</i>	<i>Major Findings</i>
Tindal et al. (2003)	Documenting technical adequacy (i.e., reliability and construct validity)	Analysis of the technical aspects of construct validity and reliability	Students were distributed on reading and math performance tasks in the manner one would expect given the disability.
Turner, Baldwin, Kleinert, & Kearns (2000)	Evaluation of Kentucky alternate assessment	Program evaluation for 36 schools using Program Quality Indicator (PQI) Checklist, IEP Evaluation Tool, teacher and student interviews; AA scores; school accountability score	48% of AA scores were proficient or distinguished; moderate correlation in PQI & AA scores; no correlation in IEP and AA score; moderate correlation in AA scores and school accountability score.
Warlick & Olsen (1998)	States' criteria for who takes alternate assessment	Survey of 12 states prior to issuance of final regulations for IDEA 1997	Determination of eligibility for AA to be made by IEP team in all 12 states. Nine required that student's cognitive ability and adaptive behavior prevent completion of general curriculum. Influence of Kentucky's eligibility criteria was noted.

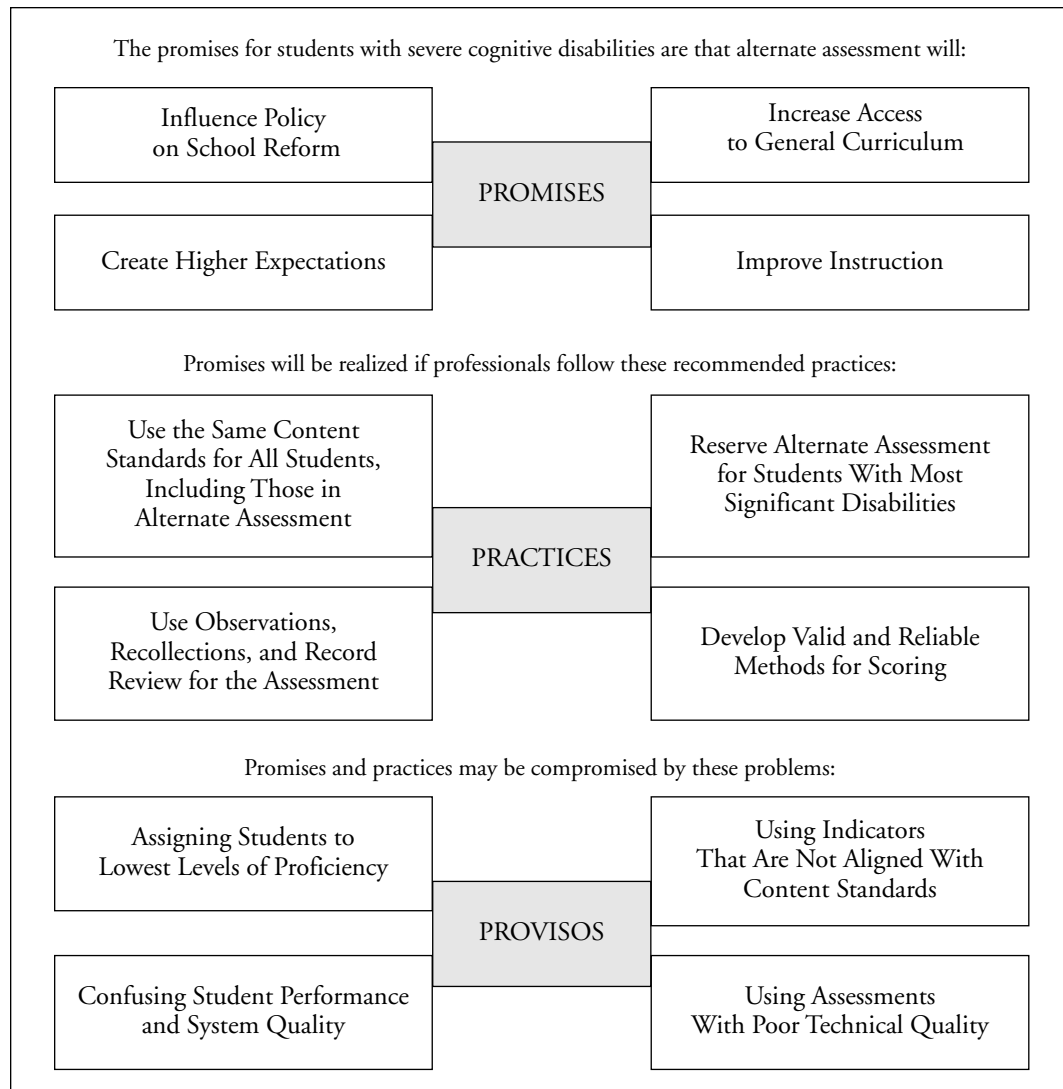
ity system. As Thompson, Quenemoen, et al. (2001) noted, the most frequent reason for excluding students with the most significant disabilities from assessment systems was low expectations. Low expectations can lead to setting low standards for achievement and become a self-fulfilling prophecy.

Related to setting high expectations was the promise that alternate assessment would make it possible for all students to have access to the same curriculum and to be assessed on the same state or district standards. From the onset, there was considerable confusion about what this meant. Ysseldyke and Olsen (1999) noted that "students who will participate in alternate assessment typically are not working toward a regular high school diploma, and their curriculum often includes life skills not typically found in the general curriculum" (p. 176). They noted that the focus on alternate assessments should be on authentic skills assessed in real life environments. Elliott, Ysseldyke, Thurlow, and Erickson (1998) proposed that alternate assessment is for students who are "learning a different curriculum" (p. 25). As the IDEA 1997 implementation date for alternate as-

essment dawned, expert opinion about expectations was shifting. Thompson, Quenemoen, et al. (2001) emphasized that "alternate assessments are an alternate way of assessing progress toward the *same* standards as all other students are working toward. This is not an alternate-standards approach" (p. 18). They went on to reiterate that alternate assessment should focus on authentic skills in real life environments. The promise was that there would be a way to use real life skills to measure student achievement of states' standards that typically are academic.

A fourth promise was that alternate assessment outcomes could be used to improve instructional programs at the teacher and classroom level. Some viewed the primary purpose of alternate assessment to be improving the quality of programs for students with disabilities, especially those with significant disabilities (Browder, 2001; Kleinert & Kearns, 2001). Kleinert and Thurlow (2001) made this promise clearly: "Teachers must learn to use alternate assessment not only to document what the student has learned but also to enhance and extend that learning" (p. 14).

FIGURE 1
Organizing Themes for Analyzing of Alternate Assessment



PRACTICES OF ALTERNATE ASSESSMENT

Several resources have emerged since the passage of IDEA 1997 that describe how to plan and implement alternate assessments (Browder, 2001; Browder, Fallin, Davis, & Karvonen, in press; Browder & Spooner, 2003; Denham & Lahm, 2001; Ford, Davern, & Schnorr, 2001; Kleinert, Green, Hurte, Clayton, & Oetinger, 2002; Kleinert, Haigh, Kearns, & Kennedy, 2000; Kleinert & Kearns, 2001; Kleinert, Kennedy, & Kearns, 1999; Thompson, Quenemoen, et al., 2001).

From these resources several recommendations for practice were made. These recommendations related to how to adapt standards, define eligibility, design the assessment, and score the outcomes.

The first recommended practice was that states must clarify what standards were to be addressed on the alternate assessment and how the performance indicators for these standards might be adapted for students with disabilities. Thompson, Quenemoen, et al. (2001) recommended using the same content standards for all students including those in alternate assessment, but identifying achievement standards that would be ap-

plicable for students with significant disabilities. They provided examples for matching IEP goals and standards. For example, passing out milk to classmates at morning break could be used to address standards in listening, speaking, number operations, algebraic concepts, and problem-solving in math. Kleinert and Thurlow (2001) described an approach for adapting content standards by focusing on the critical function of the standard rather than its form. A standard on communicating ideas through speaking might be translated into communicating basic needs using assistive technology while still retaining the critical function of self-expression to others. These adapted content standards were then to be defined as performance indicators for the alternate assessment.

A second recommendation was that eligibility for alternate assessments should be reserved for students with the most significant disabilities who could not participate in state and district assessments with testing. "Only a small number of students are unable to participate in regular assessments because of significant disabilities. These students can be assessed using an alternate assessment" (Thompson, Quenemoen, et al., 2001, p. 57). They gave several examples of the types of students who might participate in alternate assessments; they also emphasized that no student was "too low" for alternate assessment and that exemption language should be eliminated.

The third practice that was recommended was to design and use methods of assessment that relied on observations, recollection, or record review rather than paper and pencil tests to collect information on these performance indicators (Thompson, Quenemoen, et al., 2001). In an observation approach, states might require teachers to videotape students performing a specific skill or collect ongoing data on target skills. When using recollection, the alternate assessment might involve completing a skills inventory or rating scale. Record review might involve using IEP progress reports, anecdotal notes, and permanent products. A portfolio approach might include a combination of these methods. For example, North Carolina's portfolio may include data collection on IEP goals, anecdotal notes, student work samples, or a video of student performance.

A fourth practice involved recommenda-

tions for the scoring of these assessments. An early model that emerged was that of Kentucky (Kleinert et al., 1997). The state of Kentucky used portfolios to allow sufficient flexibility to address the wide range of student performance and not "automatically penalize" students with significant and profound cognitive disabilities. The portfolio contained (a) the student's primary mode of communication, (b) the student's daily/weekly schedule, (c) a student letter to the reviewer, (d) projects and investigations, (e) a work resume for students in the 12th grade, and (f) a letter from the parents or guardian. A holistic scoring guide was then developed for several scoring dimensions using a 4-point rubric (novice, apprentice, proficient, distinguished).

The promise of improvements in participation, perceptions, performance, and programs has not been extensively documented in extant publications on alternate assessment practices. The body of knowledge that exists is descriptive rather than evaluative, and illustrative rather than comparative or predictive.

PROVISOS OF ALTERNATE ASSESSMENT

We do not have sufficient data to determine if the practice of alternate assessment will live up to its promises. On the other hand, we do have enough data to know that there is much variation in practice across states (Browder, Ahlgrim-Delzell, et al., in press; Thompson & Thurlow, 2001). We also know that current practices are fraught with problems threatening the potential of alternate assessment and its promises. These provisos include assigning students to the lowest levels of proficiency, combining student performance and system quality scores, failing to use performance indicators that are clearly aligned with academic content standards, and using assessments with poor technical quality.

The threat of states assigning alternate assessments to the lowest proficiency level when using them for school accountability provides a disincentive to promote student achievement for this population and could discourage inclusion of students in their neighborhood schools. If the al-

ternate assessment scores achieved by students with significant disabilities are automatically assigned the lowest proficiency level, then those scores could possibly bring down the overall performance of a specific school. Building principals and other school administrators, as well as teachers, would likely not support including students with significant disabilities in their neighborhood schools because of the effect these students' scores would have on school accountability.

Another threat is combining system quality and student achievement scores so that it becomes unclear whether students with significant cognitive disabilities are actually achieving state standards. Confusion also exists if students are given credit for mastering skills when prompts are used. While appropriate supports are relevant to school accountability for this population, research exists demonstrating that students with significant disabilities can perform daily routines independently with the application of chaining procedures, prompting strategies, and self-management strategies (e.g., Garff & Storey, 1998; Pierce & Schreibman, 1994; Sewell, Collins, Hemmeter, & Schuster, 1998; Sowers & Powers, 1995). Some students may not become independent in an entire routine (e.g., taking a bus), but gain independence in target aspects (e.g., signaling escort when ready to board bus; giving exact change; Baumgart et al., 1982; Ferguson & Baumgart, 1991). When we stereotype students with significant disabilities as not being able to achieve proficiency, even when real life indicators are used for state standards, we sabotage the purpose of accountability—to demonstrate student learning. Although systematic prompting, opportunities for inclusion and choice making, and assistive technology are all key elements of a high quality program for students with significant disabilities, focusing measurement on these supports does not answer the question of whether we have been successful in teaching students state standards.

A third threat is failing to use performance indicators that are clearly aligned with academic content standards. We may be pretending we are assessing performance on language arts and math by defining any simplistic response as a performance indicator (Ford et al., 2001). Additionally, by focusing only on functional skills with no link to academic content, we are not creating access to

When we stereotype students with significant disabilities as not being able to achieve proficiency, even when real life indicators are used for state standards, we sabotage the purpose of accountability—to demonstrate student learning.

the general curriculum. Creating access to the general curriculum in an alternate assessment does not work when general curriculum experts are not involved. As special educators translate state standards they sometimes lose sight of the academic skills that they target. In contrast, simply applying academic standards to students with significant disabilities will probably result in outcomes at the lowest levels of proficiency unless real life indicators (i.e., functional life skills applications) can be used as achievement standards.

Finally, the lack of evidence of the technical quality of alternate assessment creates a problem in using these data to create school policy. While reform and large-scale assessment have been occurring in general education for over a decade, it is a relatively new advancement in special education. Studies (e.g., Tindal et al., 2003) and recommendations from related areas (e.g., writing portfolios) are just now underway to assess the technical accuracy (e.g., reliability, construct validity) of large-scale assessment for students with significant disabilities.

WHAT WE KNOW ABOUT ALTERNATE ASSESSMENT

Given that some expert guidelines exist, the practice of alternate assessment continues to evolve rapidly. As noted in the earlier discussion of assessing students on state standards, experts' writing reflects shifts in thinking as they gain more experience and information on alternate assessment. States have also made changes in their alternate assessments in the early years of implementation (Thompson & Thurlow, 2001). Given the limitations of trying to summarize a dynamic,

evolving process at one point in time, we propose that this summary is crucial in the current era with the increased emphasis on accountability in No Child Left Behind. As reflected in Table 1, we now have 19 data-based studies on alternate assessment. These data provide an important basis for evaluating the extent to which practices of alternate assessment are fulfilling promises of improved policy, increased expectations, increased access to uniform standards, and improved instruction.

IS ALTERNATE ASSESSMENT INFLUENCING POLICY ON SCHOOL REFORM?

The promise that state policy would be influenced by alternate assessment would first require reporting outcomes for these data. Until states, districts, and schools have the full picture of educational outcomes, it is difficult to determine if changes are needed. Data addressing this area of alternate assessment are not extensive.

In the report on states in 2001, Thompson and Thurlow (2001) found that only half the states reported alternate assessment scores with a third having not yet decided how to report them. During the 2001-2002 school year, most states were searching for the optimal method to report scores. One of the issues that arose was whether alternate assessment scores should be assigned the lowest proficiency level when combined with other scores given that they typically were off grade level, used widely differing performance indicators than those applied to other students, or only tangentially addressed academic content. Assigning students to alternate assessment precluded qualifying for a high school diploma in some states.

Bechard (2001) proposed six models for reporting alternate assessment outcomes based on how proficiency levels are assigned. These include having (a) the same proficiency levels for alternate and general assessment, (b) different proficiency levels that are treated the same, (c) different proficiency levels, (d) overlapped proficiency levels, (e) lowest possible proficiency level for alternate assessment, and (f) no alternate assessment proficiency levels. Kentucky followed the model of treating proficiency levels the same for the general and alternate assessment. One important impact

found for this state was that alternate assessment scores correlated with school accountability scores (Turner, 2000). Other research on Kentucky documented benefits from alternate assessment including increased use of augmentative/alternative communication systems, student participation in self-evaluation of performance, and individual schedules (Kleinert et al., 1999). It is unlikely that such benefits would occur in a state where alternate assessment scores are assigned the lowest proficiency level because teachers and schools would have no incentive to enhance student performance.

The impact of states' differences in assigning proficiency was evident in Thurlow, Wiley, and Bielinski's (2002) review of states' Biennial Performance Reports. These reports showed wide variation in the percentage of students achieving proficiency for 28 states and 2 unique states (N. Mariana Islands and Marshall Islands) who provided data on alternate assessment. For example, fewer than 25% of students in alternate assessments achieved proficiency in reading in several states, but in 5 states 61% to 100% did so.

Overall, the promise that alternate assessment will influence policy on school reform has yet to be realized. Both states' reporting of scores and policy on whether or not students can achieve comparable proficiency levels will influence whether or not this promise will be fulfilled. One reason states may have been hesitant to report and use these scores in accountability formulas is the challenges in technical quality of most alternate assessments. For example, Thompson and Thurlow (2001) found that over half the states were using portfolios. Browder, Ahlgrim-Delzell, et al. (in press) noted that most states used rubrics to score the alternate assessment criteria and some used multiple rubrics. Although most states have not yet reported data on technical quality, early information from Kentucky suggests interrater reliability may be especially challenging. In the early phase of Kentucky's alternate assessment, only 48.9% of the portfolios were scored identically in two rounds of scoring (Kleinert et al., 1997). Turner et al. (2000) found a moderate correlation between a Program Quality Indicator Checklist and alternate assessment scores suggesting some concurrent validity. But, they found no correlation with the quality of IEP

objectives. Kleinert, Garrett, et al. (2002) found no relationship between alternate assessment scores and a measure of postschool outcomes for Kentucky students, but this was confounded by the fact that most students in their sample had poor outcomes.

Tindal et al. (2003) developed a series of standardized tasks that could be considered as related to the same construct defined in a large-scale assessment program in an effort to evaluate technical adequacy (i.e., reliability and construct validity). Their participants were from 36 school districts within 11 Educational Service Districts from one state in the Pacific Northwest. Accordingly, 131 teachers and 437 students from those districts were also part of their investigation. Students who participated in the study were in kindergarten through postsecondary school who met the following criteria: (a) student had a moderate to severe disability (actual participants were diagnosed with mental retardation, autism, orthopedic impairments, other health impairments, and specific learning disabilities); (b) student participated in a functional daily living skills routine; and (c) student exempted from standard statewide assessment. Students with autism performed the lowest, followed by students with mental retardation, and those with specific learning disabilities performed the highest. They also found consistent judgments in performance across raters.

The promise that alternate assessment scores will count and influence school policy to incorporate all students including those with the most significant disabilities in school reform policy will be difficult until more information is obtained demonstrating the technical quality of these procedures (Coutinho & Malouf, 1993; Herman & Winters, 1994; Kleinert et al., 1997; Turner et al., 2000). The bottom line in addressing accountability measures for all students is that these assessments should reflect the degree to which all students are prepared for important life outcomes.

IS ALTERNATE ASSESSMENT INCREASING EXPECTATIONS?

The first question to consider in determining the expectations set for students with disabilities, especially those with significant disabilities, is who actually participates in the alternate assessment.

The bottom line in addressing accountability measures for all students is that these assessments should reflect the degree to which all students are prepared for important life outcomes.

Early in the development of alternate assessment, Warlick and Olsen (1998) found that 9 out of 12 states were considering whether cognitive level and adaptive behavior precluded completion of the general curriculum in assigning eligibility. Bechard (2001) noted that states have reported up to 2.5% of the total population or about 20% of students with disabilities having received alternate assessments. In some states, like Kentucky, this number has been much lower with a focus on alternate assessment being for students with the most significant disabilities (Kleinert & Kearns, 1999). Given that IDEA (1997) requires that all students be included in states' assessment systems, alternate assessments do seem to function to make this possible. In contrast, a number of states seem to be using eligibility criteria that encourage assigning more students to alternate assessments than may be necessary. This has especially serious implications if students in alternate assessments do not keep pace with the benchmarks to qualify for a standard diploma.

A critical limitation in the data-based research to date (see Table 1, Kleinert & Kearns, 1999; Kleinert et al., 1999; Thompson, Thurlow, et al., 2001) is that no one has asked whether participation in alternate assessment has increased expectations for students with significant disabilities. Research from Kentucky provides some indirect evidence of increased expectations. Scores on the alternate assessment improved across years in this state (Kleinert & Kearns, 1999). Educators in Kentucky also revised their alternate assessment when experts suggested the need to incorporate higher expectations in academics. Rather than using functional domains for the assessment, they used academic domains like language arts and math. The benefits teachers reported in the study by Kleinert et al. (1999) also hinted at increased expectations. The fact that more students self-evaluated their performance

and had their own schedule suggested increasing expectations for students to have skills in self-determination. The increased use of augmentative/assistive communication systems may reflect an increasing expectation that students can and should express themselves.

One important way researchers could evaluate whether alternate assessments have increased expectations for students is to ask parents and students what impact this requirement is having. The only study, to date, to include parental input was Kleinert, Garrett, et al.'s (2002) study on postschool outcomes. Parents and students were interviewed to determine the students' postschool outcomes but were not asked about alternate assessment per se.

Another alternative for considering increased expectations would be to examine IEPs. The only research, to date, on IEPs and alternate assessment reflects little influence. In a document analysis of 41 states' IEPs, Thompson, Thurlow, et al. (2001) found that eight states had no reference to alternate assessment on their IEPs and only five states addressed state standards. Turner et al. (2000) found no correlation between IEP quality and alternate assessment scores, but their IEP quality measure did not address expectation level per se. In the absence of information on parents' and students' perspectives and the expectations reflected in IEPs, the promise that alternate assessment will increase expectations cannot yet be evaluated.

One of the areas of confusion to be addressed in setting expectations is whether educators believe all students with significant disabilities can master goals related to state standards even with real life indicators used for the assessment. By definition, students with significant disabilities have significant impairments in overall intellectual functioning and measures of adaptive skills (Luckasson et al., 1992). An alternate assessment system strictly tied to student performance might simply reveal these impairments. An alternative to focusing solely on student performance is to use supports and quality of learning opportunities in the alternate assessment score. In contrast, if the alternate assessment performance indicators are linked to the IEP, as is the practice in North Carolina, it is feasible to expect all students to achieve high levels of proficiency (i.e., by

mastering their IEPs). Thompson and Thurlow (2001) found that most states (80%) measure level of skill or competence, but many also consider levels of support, participation in general education settings, the appropriateness of the skill chosen for the assessment, and other factors. Only eight states do not include system performance as part of the alternate assessment. It can be argued that including system performance, when this has not been used in the typical statewide assessment, sets low expectations for students with significant disabilities. That is, this practice implies that the quality of the educational system must be added to the scores for students with significant cognitive disabilities because their achievement scores cannot stand alone. Although students with significant disabilities may not all be able to achieve the same level of performance on state standards, it may be feasible to assume that all can master real life skills, individually selected through the IEP process, that are linked to these state standards. For example, during North Carolina's pilot year of implementation in 2000, students with all types of disabilities achieved proficient levels of performance on the alternate assessment that was based on mastery, generalization, and initiation of their IEP objectives.

IS ALTERNATE ASSESSMENT INCREASING ACCESS TO THE GENERAL CURRICULUM?

Another alternative for determining whether alternate assessment has increased expectations is to note how they relate to state standards. National experts have indicated that including academics in alternate assessment is needed to raise expectations (Kleinert & Kearns, 1999). Thompson and Thurlow (2001) found that many states started the planning process for alternate assessment by using functional skills with no link to state standards, but by 2001 only 8% still used this approach. Instead states either used their state standards for the alternate assessment or functional skills that they linked back or added to these standards. A process most states used to clarify the relationship between the skills and state standards was to extend state standards through stakeholder planning groups who reviewed each standard and brainstormed functional applications. These formed the performance indicators for most states' alternate assessments. Browder,

Ahlgrim-Delzell, et al. (in press) found that academic content areas were most often used to organize these performance indicators with language arts and math being most often represented. However, many states included additional functional domains or used functional examples in the indicators. Browder, Flowers, et al. (in press) collected evidence on the validity of states' indicators by having them reviewed by content area experts in language arts and math and by practitioners. They found that some states have accessed the general curriculum with their performance indicators. In contrast, some indicators purported to be language arts and math do not hold up to scrutiny by either content area experts or practitioners (e.g., the indicator one state used for math, "replace hair curlers on rod in beauty salon," did not have a clear link to any academic standard). Browder, Spooner, et al. (in press) extended this study to analyze the type of performance indicators used with states that content area experts and stakeholders identified as having the best access to general curriculum. They found that the states identified as having the clearest links to math or language arts content used a much higher ratio of academic indicators than those with weak links although they still also used functional and other types of skills as indicators for their alternate assessments.

The promise that alternate assessments will increase access to the general curriculum and assess all students on state standards has some evidence of being fulfilled. Some states have created performance indicators that link to their standards and reflect general curriculum, and more states are moving to using state standards in their assessments. No Child Left Behind (2002) requires that all students be assessed on language arts/reading, math, and science. The need continues to be sure that what states call reading and math, once translated into real life performance indicators, still have content validity. Browder, Ahlgrim-Delzell, et al. (in press) found that only 17% of states evaluate whether the skills included in the alternate assessment actually reflect state standards. They also found that over half the states provided examples of what to assess; teachers and IEP teams determined what actually is included in most alternate assessments. While this local decision making is appropriate to the unique

needs of this low-incidence population, some checks and balances may be needed at the district and state level to ensure that the standards were not lost in the translation to the student.

IS ALTERNATE ASSESSMENT IMPROVING INSTRUCTION?

Experts have urged that data collected for alternate assessment be used as part of ongoing instructional decision making (Browder, Fallin, et al., in press; Burdige et al., 2001; Thompson, Quenemoen, et al., 2001). If this becomes practice, the time invested in alternate assessment may benefit both student and teacher. The teacher has information that can be used to improve instructional effectiveness and accelerate student learning. We have information that alternate assessment is time consuming in a state using a portfolio process. Teachers in Kentucky reported that they needed 25 to 35 hr outside of regular instruction to complete the portfolio (Kampfer, et al., 2001). They also found that instructional variables (student involvement, embedding portfolio items into instruction, and teacher's perceived benefit of the portfolio), rather than time, influenced outcome scores. Turner et al. (2000) found that program quality indicators correlated with outcome scores.

This research hints at the relationship between instruction and alternate assessment outcomes, but does not yet reflect the promise that alternate assessment data themselves are being used to improve instruction. Instead, alternate assessment may stress teachers with time constraints without necessarily improving instruction unless teachers are trained to make this connection. The one study that focused on staff training (DeStefano, et al., 2001) focused primarily on planning accommodations and participation in the different assessment options. Through training, teachers learned how to decide when the use of alternate assessment would be appropriate. We do not yet have research showing that training teachers to use alternate assessment data to improve instructional effectiveness produces the desired results. Browder and Spooner (2003) and Browder, Fallin, et al. (in press) have described ways to use data to make instructional decisions. Although research exists on the benefits of data-based decision making (Farlow & Snell, 1994;

Haring, Liberty, & White, 1980), demonstrations are needed of how to train teachers to incorporate this type of decision making in ongoing alternate assessments.

WHAT WE NEED TO KNOW ABOUT ALTERNATE ASSESSMENT

The promises and practices of alternate assessment seem to represent unrealized ideals. Given what we know about alternate assessment, we offer the following recommendations in efforts to direct future research and more clearly focus on what we need to know to improve the outcomes of alternate assessments.

Validate Performance Indicators With Content Area Experts and Stakeholders. Many states now have lists of performance indicators that planning teams can use as examples of skills to assess to demonstrate performance of state standards. These examples need to be validated with content area experts in subjects like language arts and math in order to determine that they reflect the states' standards. In other words, information on validity is needed to be sure the critical essence of the standard was not lost in the translation. Validation by stakeholders is also needed to be sure these performance indicators set high expectations for students in the alternate assessment, but also offer a range of options for students with the most significant disabilities. Performance indicators also need to reflect the value of self-determination, including skills like choice making and problem-solving.

Use a Format for Alternate Assessment That Produces Data for Instructional Decisions. If teachers of students who participate in alternate assessment are to help students master the performance indicators for the standards at each grade level, the assessment process needs to be closely tied to ongoing classroom instruction and data collection. Alternate assessments that rely on a checklist of skills or a one-time observation of performance provide little useful information to improve instruction and student performance.

Link Alternate Assessments to the IEP So Students and Parents Can Participate in Setting the Level of Expectation. Alternate assessments at their

best have focused on the same content standards as general education, but with different achievement standards. Students in the alternate assessment are not typically keeping pace with grade level expectations for curriculum. In contrast, they are focusing on highly individualized indicators for outcomes in areas like language arts and math. Because participation in alternate assessment may not standardize outcome expectations for all students who participate the same way general state and district testing does, it is essential for the alternate assessment to be tied to the IEP so that parents and students help define what these adapted expectations will be. Using IEP objectives to define these expectations also makes it possible for any student in the alternate assessment to achieve mastery or the highest potential score. In contrast, tying these scores only to the teacher's assessment of IEP progress creates little, if any, district and state expectation for how students with significant cognitive disabilities will achieve state standards and may contribute outcome scores of dubious reliability and validity. One option may be for the state to specify performance indicators that can be demonstrated in more than one way, allowing for individualization through the IEP process.

Train Teachers in How to Incorporate Alternate Assessment in Daily Practice. For alternate assessment to have the maximum benefit for students, teachers need training in how to incorporate it in their daily instruction and to use data gleaned from it to make instructional decisions.

Use Best Measurement Practice for Scoring and Reporting Alternate Assessments and Collecting and Reporting Data on Technical Quality. As the stakes increase for all students meeting performance expectations, it is important to demonstrate the technical merits of an alternate assessment system. This will require close collaboration between states' experts in testing and special educators so that the assessment and scoring of alternate assessments are both conceptually sound and educationally valid.

Use Alternate Assessment Outcomes for Program Evaluation and Ongoing Quality Enhancement. One of the hoped-for impacts of alternate assessment is that it will improve educational outcomes for students with significant disabilities. But as Hilliard (2000) notes, it is teaching, not

testing, that produces learning outcomes. For students with significant disabilities, we will also need other forms of support to achieve desired outcomes, such as opportunities to interact with nondisabled peers, be exposed to the general curriculum, and use assistive technology. When schools receive alternate assessment scores that are disappointing, these need to be used to plan quality enhancement in services for these students.

IMPLICATIONS FOR PRACTICE

The variation in alternate assessment practices across states, their ongoing development, and the limited research available to date has important implications for practitioners to become informed consumers and advocates in their states and to develop skills to link alternate assessment with ongoing instruction. Browder and Spooner (2003) recommend several questions practitioners can use to become informed consumers about their state's alternate assessment including (a) What are the states' standards? (b) Does the state base alternate assessment on extensions of academic standards, additional functional standards, or both? (c) What are the eligibility criteria to participate in alternate assessment, and how does participation influence both student and system accountability? (d) What format does the state use for alternate assessment? and (e) How are the alternate assessments scored? Practitioners may also want to seek information on the reliability and validity of the alternate assessment from their state. Quenemoen, Rigney, and Thurlow (2002) recommend that stakeholders be involved in defining student outcomes. They note that in states where a thoughtful process occurred in developing alternate assessments, there was also continuous improvement of the assessment process. Practitioners are also encouraged to check other state's Web sites to identify alternative practices. The National Center on Educational Outcomes Web site provides direct links to states' information on alternate assessment (<http://education.umn.edu/NCEO>).

Another implication for practice is to find ways to incorporate alternate assessment in ongoing instruction. This may include an increased focus on access to the general curriculum and on-

When schools receive alternate assessment scores that are disappointing, these need to be used to plan quality enhancement in services for these students.

going assessment of skills related to alternate assessment outcomes. Given that alternate assessment can be a time consuming process in some states (e.g., those that utilize portfolios), finding overlap with ongoing instruction may make the process more efficient as well as potentially beneficial to students.

Alternate assessment has the potential to enhance expectations for students with significant cognitive disabilities and to increase consideration of this population's needs in setting state and district policy. In contrast, this new practice also has the potential to compete with instructional time and yield data of dubious value, without fundamental changes in what goes on in special education programs and without adequate staff training. Future research is needed to determine what practices not only address requirements for accountability, but also meet the unique educational needs of students with significant cognitive disabilities.

BACK TO THE FUTURE

The promises for alternate assessment are that it would foster greater consideration of students with disabilities in school and state policy decisions; that the overall expectations for people with disabilities would increase; that there would be a way to use real life skills to measure states' standards that typically were academic; and that alternate assessment outcomes could be used to improve programs at the teacher and classroom level. The practices from the resources reviewed in this study suggest that states must (a) clarify what standards are to be addressed on the alternate assessment and the performance indicators for these standards; (b) reserve alternate assessments for students with the most significant disabilities who cannot participate in the state and district assess-

ments; (c) use methods of assessment that rely on observations, recollection, or record review, rather than paper/pencil testing, to collect information on these performance indicators; and (d) define and validate scoring procedures. The provisos of alternate assessment are the threat of states assigning alternate assessment scores to the lowest proficiency level, thus providing a disincentive to including students with significant disabilities in neighborhood schools; the threat of not expecting students with significant disabilities to be able to perform new skills without prompting; and the threat of pretending we are assessing performance in language arts and math by defining simplistic responses as performance indicators.

REFERENCES

- Baumgart, D., Brown L., Pumpian, I., Nisbet, J., Ford, A., Sweet, M., et al. (1982). Principle of partial participation and individualized adaptation in educational programs for severely handicapped students. *The Journal of The Association for Persons with Severe Handicaps*, 7(2), 17-27.
- Bechard, S. (2001, September). *Models for reporting the results of alternate assessments within state accountability systems (Synthesis Report 39)*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved February 13, 2002, from <http://education.umn.edu/NCEO/OnlinePubs/Synthesis39.html>
- Browder, D. M. (Ed). (2001). *Curriculum and assessment for students with moderate and severe disabilities*. New York: Guilford Press.
- Browder, D. M., Ahlgrim-Delzell, L. A., Flowers, C., Karvonen, M., Spooner, F., & Algozzine, R. (in press). How states implement alternate assessment for students with significant disabilities and recommendations for national policy. *Journal of Disability Policy Studies*.
- Browder, D. M., Fallin, K., Davis, S., & Karvonen, M. (in press). A consideration of what may influence student outcomes on alternate assessments. *Education and Training in Mental Retardation and Developmental Disabilities*.
- Browder, D. M., Flowers, C., Ahlgrim-Delzell, L., Karvonen, M., Spooner, F., & Algozzine, R. (in press). The alignment of alternate assessment content to academic and functional curricula. *The Journal of Special Education*.
- Browder, D. M., & Spooner, F. (2003). Understanding the purpose and process of alternate assessment. In D. L. Ryndak & S. Alper (Eds.), *Curriculum and instruction for students with significant disabilities in inclusive settings* (2nd ed., pp. 51-69). Boston: Allyn & Bacon.
- Browder, D. M., Spooner, F., Ahlgrim-Delzell, L., Flowers, C., Karvonen, M., & Algozzine, R. (in press). A content analysis of the curricular philosophies reflected in states' alternate assessments. *Research and Practice for Persons With Severe Disabilities*.
- Burdge, M., Groneck, V. B., Kleinert, H. L., Longwill, A. W., Clayton, J., Denham, A., & Kearns, J. F. (2001). Integrating alternate assessment in the general curriculum. In H. L. Kleinert & J. F. Kearns (Eds.), *Alternate assessment: Measuring outcomes and supports for students with disabilities* (pp. 49-91). Baltimore: Paul H. Brookes.
- Coutinho, M., & Malouf, D. (1993). Performance assessment and children with disabilities: Issues and possibilities. *TEACHING Exceptional Children*, 25(4), 62-67.
- Denham, A., & Lahm, E. A. (2001). Using technology to construct alternate portfolios of students with moderate and severe disabilities. *TEACHING Exceptional Children*, 33(5), 10-17.
- DeStefano, L., Shriner, J. G., & Lloyd, C. A. (2001). Teacher decision making in participation of students with disabilities in large-scale assessments. *Exceptional Children*, 68, 7-22.
- Elliott, J., Ysseldyke, J. E., Thurlow, M. L., & Erickson, E. (1998). What about assessment and accountability? *TEACHING Exceptional Children*, 31(1), 20-27.
- Erickson, R. N., Thurlow, M. L., & Thor, K. (1995). *State special education outcomes, 1994*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. (ERIC Document Reproduction Service No. ED 404 799)
- Erickson, R. N., Thurlow, M. L., Thor, K., & Seyfarth, A. (1996). *State special education outcomes, 1995*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. (ERIC Document Reproduction Service No. ED 385 061)
- Farlow, L. J., & Snell, M. E. (1994). Making the most of student performance data. *Innovations*. Washington, DC: American Association on Mental Retardation.
- Ferguson, D. L., & Baumgart, D. (1991). Partial participation revisited. *The Journal of The Association for Persons with Severe Handicaps*, 16, 218-227.
- Ford, A., Davern, L., & Schnorr, R. (2001). Learners with significant disabilities: Curricular relevance in an

- era of standards-based reform. *Remedial and Special Education*, 22, 214-222.
- Garff, J. T., & Storey, K. (1998). The use of self-management strategies for increasing the appropriate hygiene of persons with disabilities in supported employment settings. *Education and Training in Mental Retardation and Developmental Disabilities*, 33, 179-188.
- Haring, N. G., Liberty, K. A., & White, O. R. (1980). Rules for data-based strategy decisions in instructional programs: Current research and instructional implications. In W. Sailor, B. Wilcox, & L. Brown (Eds.), *Methods of instruction for severely handicapped students* (pp. 159-194). Baltimore: Paul H. Brookes.
- Herman, H., & Winters, L. (1994). Portfolio research: A slim collection. *Educational Leadership*, 52, 48-55.
- Hilliard, A. G. (2000). Excellence in education versus high-stakes standardized testing. *Journal of Teacher Education*, 51, 293-304.
- IDEA. (1997). Individuals With Disabilities Act Amendments of 1997. Retrieved July 16, 2002, from http://www.ed.gov/offices/OSERS/Policy/IDEA/the_law.html
- Kampfer, S., Horvath, L., Kleinert, H., & Kearns, J. (2001). Teachers' perceptions of one state's alternate assessment portfolio program: Implications for practice and teacher preparation. *Exceptional Children*, 67, 361-374.
- Kleinert, H., Garrett, B., Towles, E., Garrett, M., Nowak-Drabik, K., Waddell, C., & Kearns, J. (2002). Alternate assessment scores and life outcomes for students with significant disabilities: Are they related? *Assessment for Effective Intervention*, 28 (1), 19-30.
- Kleinert, H. L., Green, P., Hurte, M., Clayton, J., & Oettinger, C. (2002). Creating and using meaningful alternate assessment. *TEACHING Exceptional Children*, 34(4), 40-47.
- Kleinert, H. L., Haigh, J., Kearns, J., & Kennedy, S. (2000). Alternate assessment: Lessons learned and roads traveled. *Exceptional Children*, 67, 51-66.
- Kleinert, H. L., & Kearns, J. F. (1999). A validation study of the performance indicators and learner outcomes of Kentucky's alternate assessment for students with significant disabilities. *The Journal of The Association for Persons with Severe Handicaps*, 24, 100-110.
- Kleinert, H. L., & Kearns, J. F. (Eds.). (2001). *Alternate assessment: Measuring outcomes and supports for students with disabilities*. Baltimore: Paul H. Brookes.
- Kleinert, H. L., Kearns, J. F., & Kennedy, S. (1997). Accountability for all students: Kentucky's alternate portfolio assessment for students with moderate and severe cognitive disabilities. *The Journal of The Association for Persons with Severe Handicaps*, 22, 88-101.
- Kleinert, H. L., Kennedy, S., & Kearns, J. F. (1999). Impact of alternate assessments: A statewide teacher survey. *Journal of Special Education*, 33, 93-102.
- Kleinert, H. L., & Thurlow, M. L. (2001). An introduction to alternate assessment. In H. L. Kleinert & J. F. Kearns (Eds.), *Alternate assessment: Measuring outcomes and supports for students with disabilities* (pp. 1-12). Baltimore: Paul H. Brookes.
- Luckasson, R., Coulter, D. L., Polloway, E. A., Reiss, S., Shalock, R. L., Snell, M. E., Spitalnik, D. M., Spreat, S., & Tasse, M. J. (1992). *Mental retardation: Definition, classification, and system of supports* (9th ed.). Washington, DC: American Association on Mental Retardation.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).
- Pierce, K. L., & Schreibman, L. (1994). Teaching daily living skills to children with autism in unsupervised settings through pictorial self-management. *Journal of Applied Behavior Analysis*, 27, 471-481.
- Quenemoen, R., Rigney, S., & Thurlow, M. (2002). *Use of alternate assessment results in reporting and accountability systems: Conditions for use based on research and practice (Synthesis Report 43)*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved February 3, 2003, from <http://education.umn.edu/NCEO/OnlinePubs/Synthesis43.html>
- Sewell, T. J., Collins, B. C., Hemmeter, J. L., & Schuster, J. W. (1998). Using simultaneous prompting within an activity-based format to teach dressing skills to preschoolers with developmental delays. *Journal of Early Intervention*, 21, 132-145.
- Sowers, J. A., & Powers, L. (1995). Enhancing the participation and independence of students with severe physical and multiple disabilities in performing community activities. *Mental Retardation*, 33, 209-220.
- Thompson, S., Erickson, R., Thurlow, M., Ysseldyke, J., & Callender, S. (1999). *Status of states in development of alternate assessments (Synthesis Report 31)*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved January 24, 2003, from <http://education.umn.edu/NCEO/OnlinePubs/Synthesis31.html>
- Thompson, S., & Thurlow, M. (1999). *1999 State special education outcomes: A report on state activities at the end of the century*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved January 24, 2003, from <http://>

education.umn.edu/NCEO/OnlinePubs/99StateReport.htm

Thompson, S., & Thurlow, M. L. (2001). *2001 state special education outcomes: A report on state activities at the beginning of a new decade*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved September 5, 2001, from <http://education.umn.edu/NCEO/OnlinePubs/onlinedefault.html>

Thompson, S. J., Quenemoen, R. F., Thurlow, M. L., & Ysseldyke, J. E. (2001). *Alternate assessments for students with disabilities*. Thousand Oaks, CA: Corwin Press.

Thompson, S. J., & Thurlow, M. L. (2000). *State alternate assessments: Status as IDEA alternate assessment requirements take effect (Synthesis Report 35)*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved January 24, 2003, from <http://education.umn.edu/NCEO/OnlinePubs/Synthesis35.html>

Thompson, S. J., Thurlow, M., Esler, A., & Whetstone, P. J. (2001). Addressing standards and assessments on the IEP. *Assessment for Effective Intervention*, 26(2), 77-84.

Thurlow, M. L., Lazarus, S., Thompson, S., & Robey, J. (2002). *2001 state policies on assessment participation and accommodations. (Synthesis Report 46)*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved January 15, 2003, from <http://education.umn.edu/NCEO/OnlinePubs/onlinedefault.html>

Thurlow, M. L., Wiley, H. I., & Bielinski, J. (2002). *Biennial performance reports: 2000-2001 state assessment data*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved January 15, 2003, from <http://education.umn.edu/NCEO/OnlinePubs/onlinedefault.html>

Tindal, G., McDonald, M., Tedesco, M., Glasgow, A., Almond, P., Crawford, L., & Hollenbeck, K. (2003). Alternate assessment in reading and math: Development and validation for students with significant disabilities. *Exceptional Children* 69, 481-494.

Turner, M. D., Baldwin, L., Kleinert, H. L., & Kearns, J. F. (2000). The relation of a statewide alternate assessment for students with severe disabilities to other measures of instructional effectiveness. *Journal of Special Education*, 34(2), 69-76.

Warlick, K., & Olsen, K. (1998, December). *Who takes the alternate assessment? State criteria*. Lexington: University of Kentucky, Mid-South Regional Resource Center. Retrieved January 17, 2003, from <http://www.ihdi.uky.edu/msrrc/Publications/whotakes.htm>

Ysseldyke, J. E., & Olsen, K. (1999). Putting alternate assessments into practice: What to measure and possible sources of data. *Exceptional Children*, 65, 175-186.

ABOUT THE AUTHORS

DIANE M. BROWDER, (CEC #147), Snyder Distinguished Professor, Department of Counseling, Special Education, and Child Development; **FRED SPOONER** (CEC #147), Professor, Department of Counseling, Special Education, and Child Development; **ROBERT ALGOZZINE** (CEC #147), Professor, Department of Educational Leadership; **LYNN AHLGRIM-DELZELL** (CEC #147), Project Coordinator, Department of Counseling, Special Education, and Child Development; **CLAUDIA FLOWERS**, Associate Professor, Department of Educational Leadership; and **MEAGAN KARVONEN** (CEC #147), Data Coordinator, Department of Counseling, Special Education, and Child Development, The University of North Carolina, Charlotte.

Correspondence concerning this article should be addressed to Diane Browder, Department of Counseling, Special Education, and Child Development, University of North Carolina at Charlotte, 9201 University City Boulevard, Charlotte, NC 28223.

Support for this research was funded in part by Grant No. H324C010040 of the U.S. Department of Education, Office of Special Education Programs, awarded to the University of North Carolina at Charlotte. The opinions expressed do not necessarily reflect the position or policy of the Department of Education, and no official endorsement should be inferred.

Manuscript received November 2002; accepted March 2003.

This manuscript was given a blind review in which Robert Algozzine was not involved in any way.